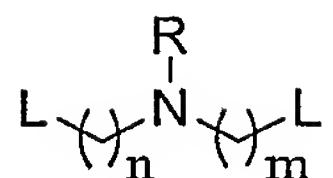


1      We claim:

2 1. A compound represented by A:



A

wherein

R is H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl,  $-\text{CO}_2\text{H}$ ,  $-\text{(CH}_2\text{)}_d\text{-R}_{80}$ , or an amino acid radical;

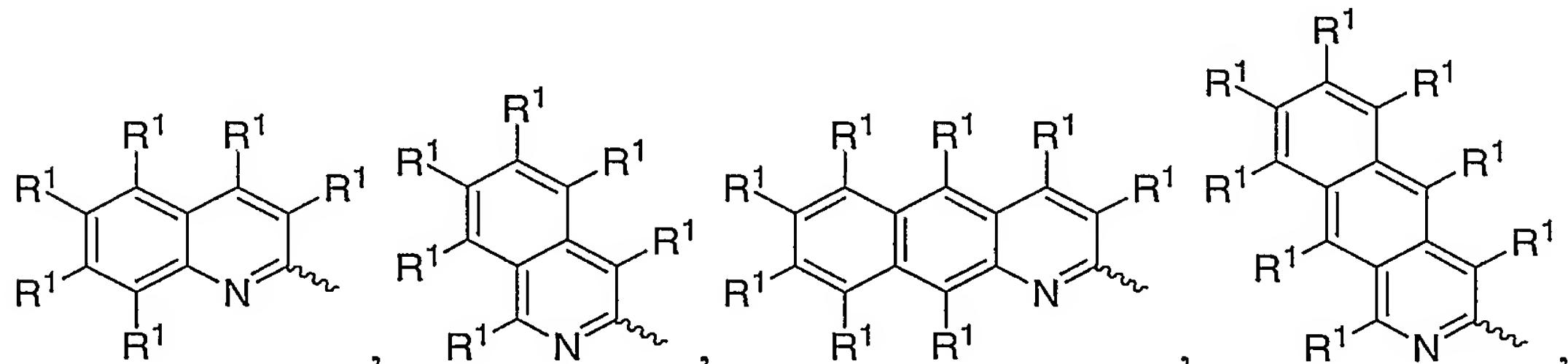
$R_{80}$  is independently for each occurrence carboxaldehyde, carboxylate, carboxamido, alkoxycarbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid, (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor;

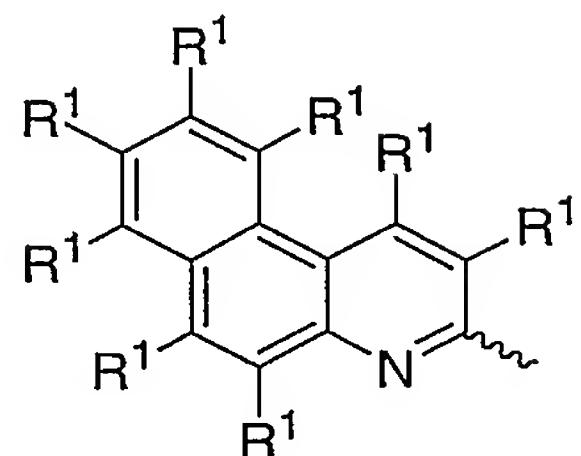
d is an integer in the range 0 to 12 inclusive;

m is an integer in the range 0 to 6 inclusive;

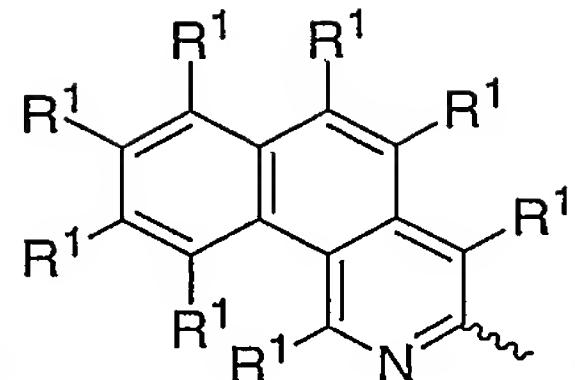
$n$  is an integer in the range 0 to 6 inclusive;

16 L is independently for each occurrence selected from the group consisting of





1 , and



2 ; and

3 each instance of R<sup>1</sup> is selected independently from the group consisting of halogen, alkyl,

4 alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro,

5 sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl,

6 carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl,

7 selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal,

8 amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide,

9 hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea,

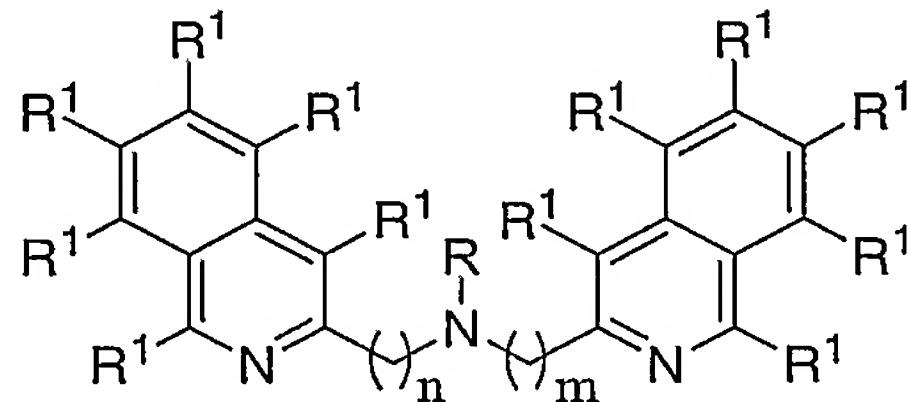
10 and -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>.

11 2. The compound of claim 1, wherein said compound is complexed with a radionuclide.

12 3. The compound of claim 1, wherein said compound is complexed with a radionuclide,

13 wherein said radionuclide is technetium or rhenium.

14 4. A compound represented by **B**:



15 **B**

16 wherein

17 R is H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl,

18 heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl, -CO<sub>2</sub>H, -

19 (CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>, or an amino acid radical;

20 each instance of R<sup>1</sup> is selected independently from the group consisting of halogen, alkyl,

21 alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro,

1       sulphydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl,  
2       carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl,  
3       selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal,  
4       amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide,  
5       hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea,  
6       and  $-(CH_2)_d-R_{80}$ ;

7        $R_{80}$  is independently for each occurrence carboxaldehyde, carboxylate, carboxamido,  
8       alkoxycarbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl,  
9       heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid,  
10      (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor;

11      d is an integer in the range 0 to 12 inclusive;

12      m is an integer in the range 0 to 6 inclusive; and

13      n is an integer in the range 0 to 6 inclusive.

14      5.     The compound of claim 4, wherein said compound is complexed with a radionuclide.

15      6.     The compound of claim 4, wherein said compound is complexed with a radionuclide,  
16        wherein said radionuclide is technetium or rhenium.

17      7.     The compound of claim 4, wherein m is 1.

18      8.     The compound of claim 4, wherein n is 1.

19      9.     The compound of claim 4, wherein m is 1; and n is 1.

20      10.    The compound of claim 4, wherein  $R^1$  is hydrogen.

21      11.    The compound of claim 4, wherein m is 1; n is 1; and  $R^1$  is hydrogen.

22      12.    The compound of claim 4, wherein R is  $-(CH_2)_d-R_{80}$ .

23      13.    The compound of claim 4, wherein m is 1; n is 1;  $R^1$  is hydrogen; and R is  $-(CH_2)_d-R_{80}$ .

24      14.    The compound of claim 4, wherein m is 1; n is 1;  $R^1$  is hydrogen; and R is  $-(CH_2)_d-R_{80}$ ;  
25        wherein said compound is complexed with a radionuclide.

26      15.    The compound of claim 4, wherein m is 1; n is 1;  $R^1$  is hydrogen; and R is  $-(CH_2)_d-R_{80}$ ;

1 wherein said compound is complexed with a radionuclide, wherein said radionuclide is  
2 technetium or rhenium.

3 16. The compound of claim 4, wherein R is an amino acid radical.

4 17. The compound of claim 4, wherein R is an amino acid radical; m is 1; and n is 1.

5 18. The compound of claim 4, wherein R is an amino acid radical; m is 1; n is 1; and R<sup>1</sup> is  
6 hydrogen.

7 19. The compound of claim 4, wherein R is an amino acid radical; m is 1; n is 1; R<sup>1</sup> is  
8 hydrogen; wherein said compound is complexed with a radionuclide.

9 20. The compound of claim 4, wherein R is an amino acid radical; m is 1; n is 1; R<sup>1</sup> is  
10 hydrogen; wherein said compound is complexed with a radionuclide, wherein said  
11 radionuclide is technetium or rhenium.

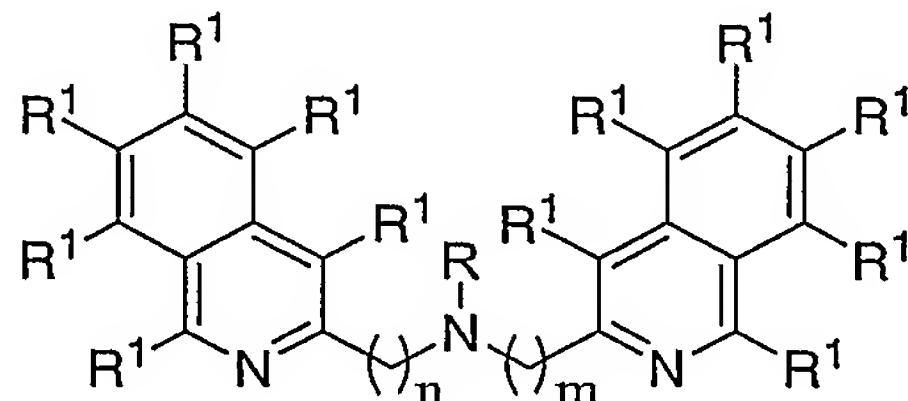
12 21. The compound of claim 4, wherein the amino acid radical is  
13 -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H.

14 22. The compound of claim 4, wherein the amino acid radical is  
15 -CH(CO<sub>2</sub>H)CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>.

16 23. The compound of claim 4, wherein the amino acid radical is -CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H.

17 24. The compound of claim 4, wherein the amino acid radical is  
18 -CH(CO<sub>2</sub>H)(CH<sub>2</sub>)<sub>x</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H, wherein x is an integer from 3 to 9 inclusively.

19 25. A compound represented by **B**:



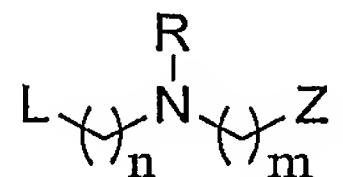
21 **B**

22 wherein

23 R is -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H;

1 m is 1;  
2 n is 1;  
3 R<sup>1</sup> is hydrogen;  
4 said compound is complexed with a radionuclide; and  
5 said radionuclide is technetium or rhenium.

6 26. A compound represented by C:



8 C

9 wherein

10 R is H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl,  
11 heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl, -CO<sub>2</sub>H, -  
12 (CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>, or an amino acid radical;

13 R<sub>80</sub> is independently for each occurrence carboxaldehyde, carboxylate, carboxamido,  
14 alkoxycarbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl,  
15 heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid,  
16 (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor;

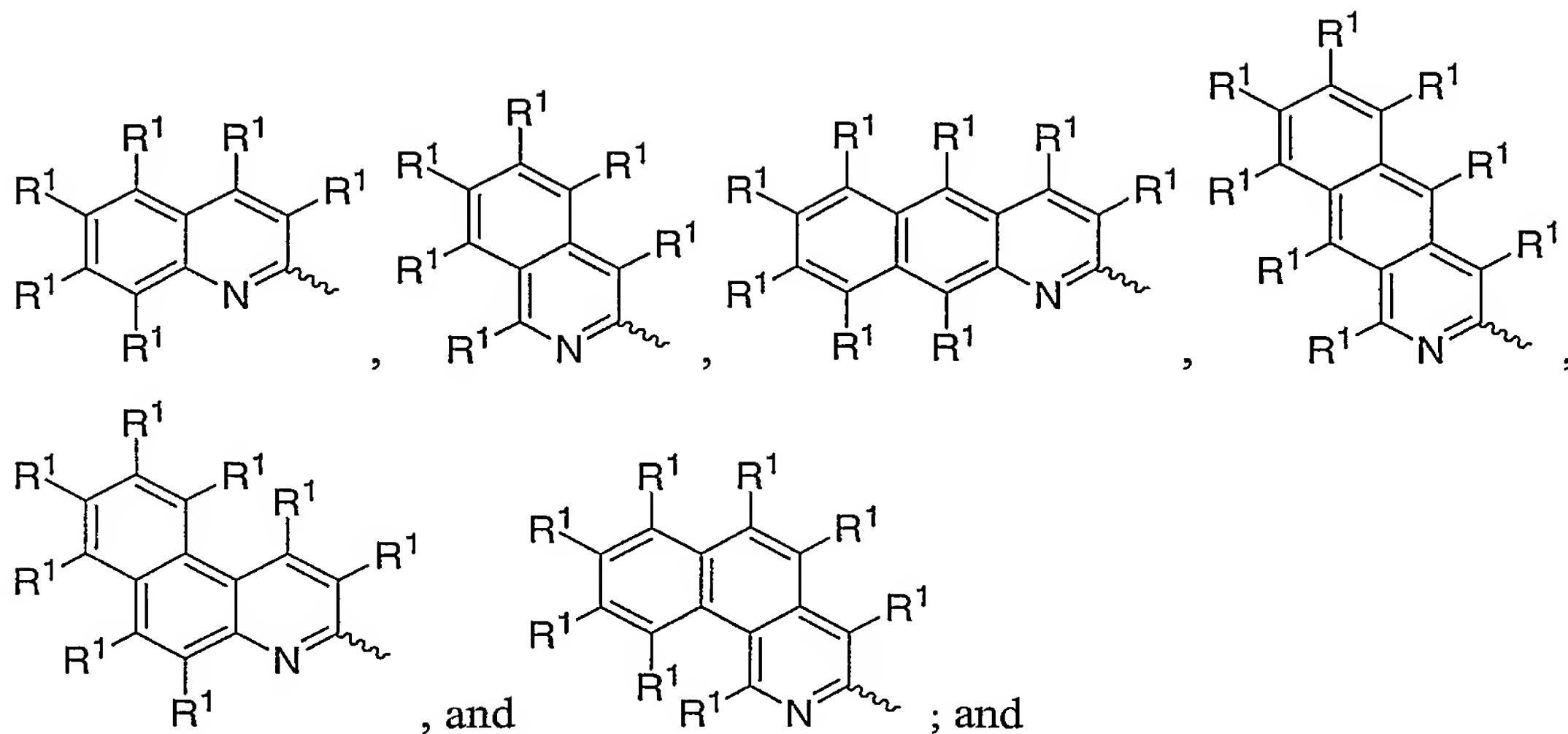
17 d is an integer in the range 0 to 12 inclusive;

18 m is an integer in the range 0 to 6 inclusive;

19 n is an integer in the range 0 to 6 inclusive;

20 Z is thioalkyl, carboxylate, 2-(carboxy)aryl, 2-(carboxy)heteroaryl, 2-(hydroxy)aryl, 2-  
21 (hydroxy)heteroaryl, 2-(thiol)aryl, or 2-(thiol)heteroaryl; and

22 L is selected from the group consisting of

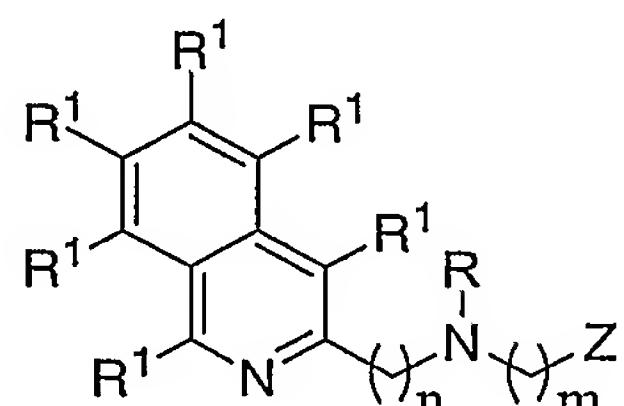


3 each instance of R<sup>1</sup> is selected independently from the group consisting of halogen, alkyl,  
 4 alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro,  
 5 sulphydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl,  
 6 carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl,  
 7 selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal,  
 8 amine oxide, aryl, heteraryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide,  
 9 hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea,  
 10 and -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>.

11 27. The compound of claim 26, wherein said compound is complexed with a radionuclide.

12 28. The compound of claim 26, wherein said compound is complexed with a radionuclide,  
 13 wherein said radionuclide is technetium or rhenium.

14 29. A compound represented by **D**:



17 wherein

1 R is H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl,  
2 heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl, -CO<sub>2</sub>H, -  
3 (CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>, or an amino acid radical;

4 R<sub>80</sub> is independently for each occurrence carboxaldehyde, carboxylate, carboxamido,  
5 alkoxy carbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl,  
6 heterocycl, polycycl, amino acid, peptide, saccharide, ribonucleic acid,  
7 (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor;

8 d is an integer in the range 0 to 12 inclusive;

9 m is an integer in the range 0 to 6 inclusive;

10 n is an integer in the range 0 to 6 inclusive;

11 Z is thioalkyl, carboxylate, 2-(carboxy)aryl, 2-(carboxy)heteroaryl, 2-(hydroxy)aryl, 2-  
12 (hydroxy)heteroaryl, 2-(thiol)aryl, or 2-(thiol)heteroaryl; and

13 each instance of R<sup>1</sup> is selected independently from the group consisting of halogen, alkyl,  
14 alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro,  
15 sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl,  
16 carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl,  
17 selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal,  
18 amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide,  
19 hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea,  
20 and -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>.

21 30. The compound of claim 29, wherein said compound is complexed with a radionuclide.

22 31. The compound of claim 29, wherein said compound is complexed with a radionuclide,  
23 wherein said radionuclide is technetium or rhenium.

24 32. The compound of claim 29, wherein Z is carboxylate.

25 33. The compound of claim 29, wherein m is 1.

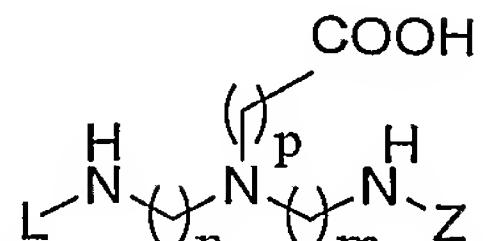
26 34. The compound of claim 29, wherein n is 1.

27 35. The compound of claim 29, wherein m is 1; and n is 1.

- 1 36. The compound of claim 29, wherein Z is carboxylate; m is 1; and n is 1.
- 2 37. The compound of claim 29, wherein R<sup>1</sup> is hydrogen.
- 3 38. The compound of claim 29, wherein Z is carboxylate; m is 1; n is 1; and R<sup>1</sup> is hydrogen.
- 4 39. The compound of claim 29, wherein R is -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>.
- 5 40. The compound of claim 29, wherein Z is carboxylate; m is 1; n is 1; R<sup>1</sup> is hydrogen; and  
6 R is -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>.
- 7 41. The compound of claim 29, wherein Z is carboxylate; m is 1; n is 1; R<sup>1</sup> is hydrogen; and  
8 R is -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>; wherein said compound is complexed with a radionuclide.
- 9 42. The compound of claim 29, wherein Z is carboxylate; m is 1; n is 1; R<sup>1</sup> is hydrogen; and  
10 R is -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>; wherein said compound is complexed with a radionuclide, wherein said  
11 radionuclide is technetium or rhenium.
- 12 43. The compound of claim 29, wherein R is an amino acid radical.
- 13 44. The compound of claim 29, wherein R is an amino acid radical; m is 1; and n is 1.
- 14 45. The compound of claim 29, wherein R is an amino acid radical; m is 1; n is 1; and R<sup>1</sup> is  
15 hydrogen.
- 16 46. The compound of claim 29, wherein R is an amino acid radical; m is 1; n is 1; and R<sup>1</sup> is  
17 hydrogen; wherein said compound is complexed with a radionuclide.
- 18 47. The compound of claim 29, wherein R is an amino acid radical; m is 1; n is 1; and R<sup>1</sup> is  
19 hydrogen; wherein said compound is complexed with a radionuclide, wherein said  
20 radionuclide is technetium or rhenium.
- 21 48. The compound of claim 29, wherein the amino acid radical is  
22 -CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H.
- 23 49. The compound of claim 29, wherein the amino acid radical is  
24 -CH(CO<sub>2</sub>H)CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>NH<sub>2</sub>.
- 25 50. The compound of claim 29, wherein the amino acid radical is -CH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H.
- 26 51. The compound of claim 29, wherein the amino acid radical is

1 -CH(CO<sub>2</sub>H)(CH<sub>2</sub>)<sub>x</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H, wherein x is an integer from 3 to 9 inclusively.

2 52. A compound represented by E:



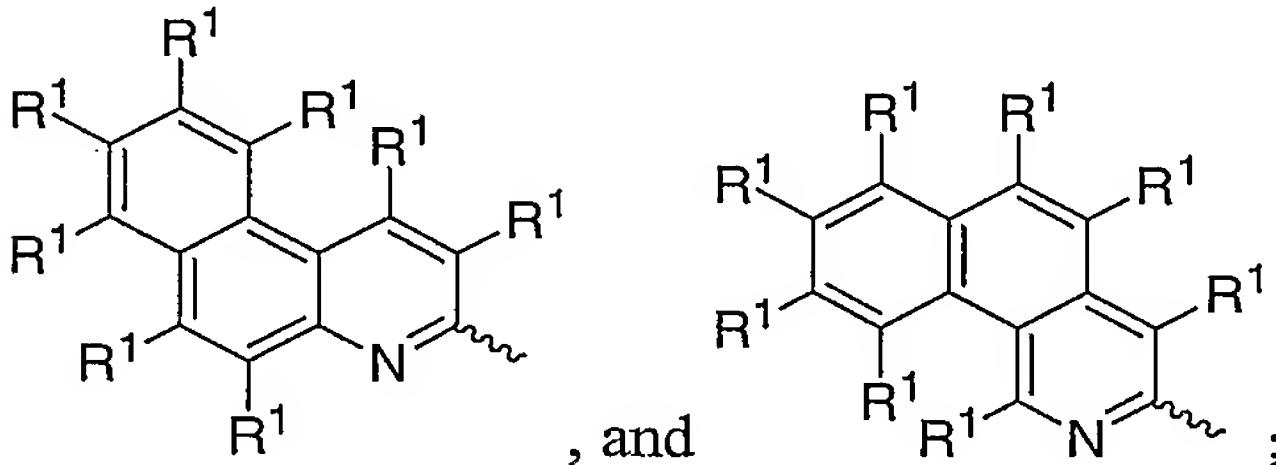
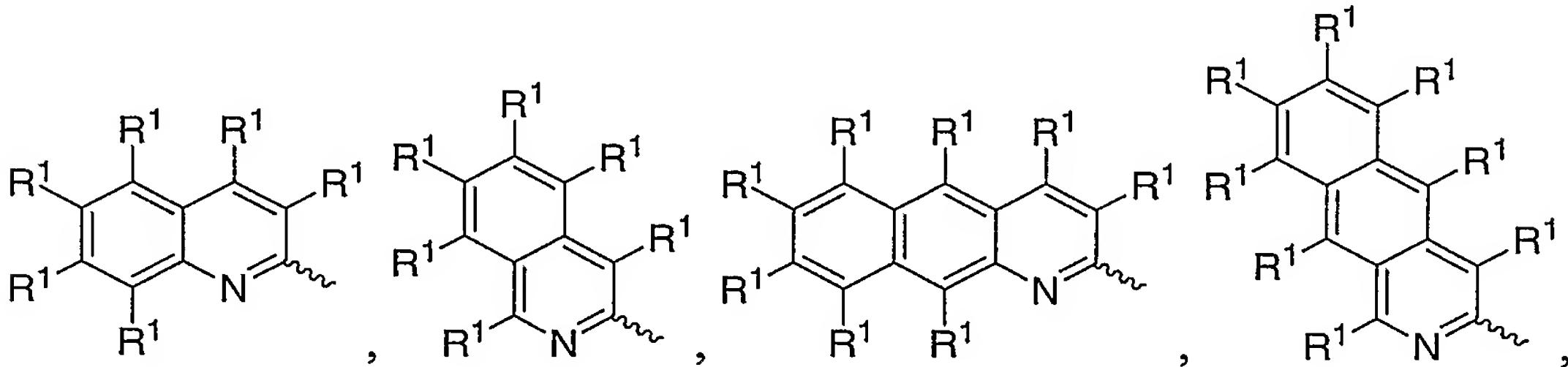
wherein

m is an integer in the range 0 to 6 inclusive;

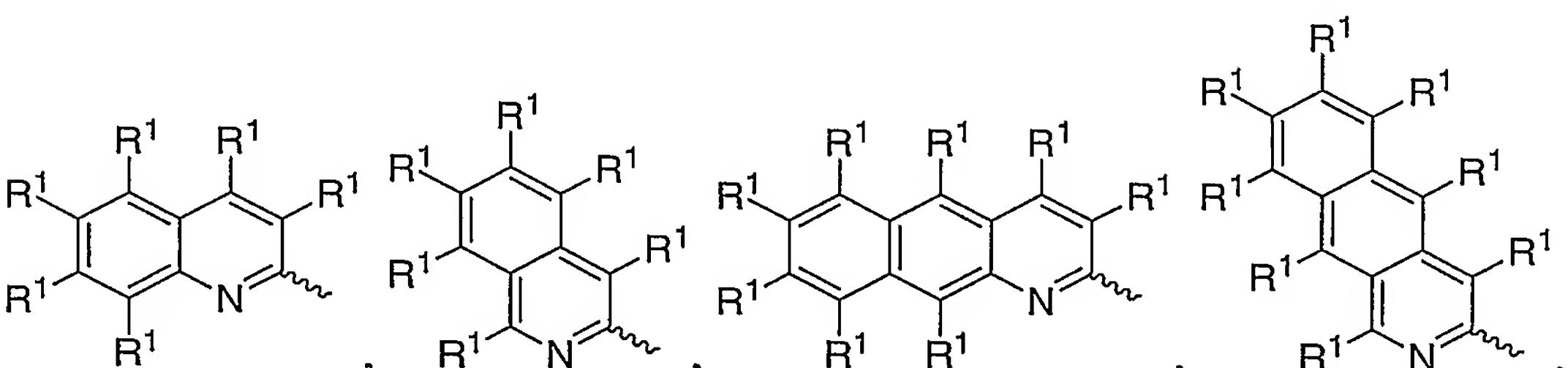
n is an integer in the range 0 to 6 inclusive;

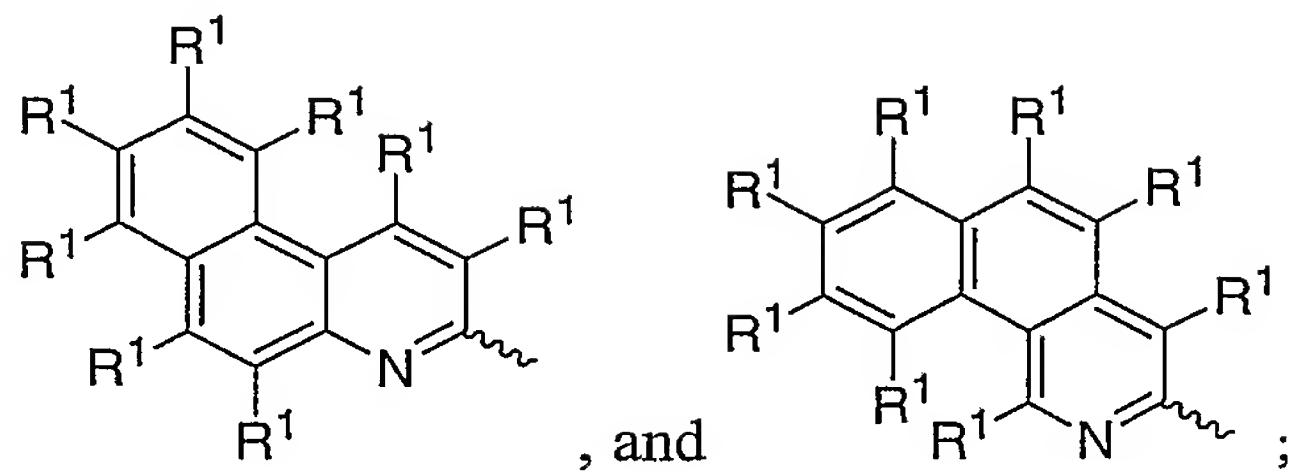
p is an integer in the range of 1 to 10 inclusive;

Z is selected from the group consisting of -CH<sub>2</sub>COOH, alkyl, aryl, aralkyl,



L is selected from the group consisting of





each instance of R<sup>1</sup> is selected independently from the group consisting of halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxyl, acyl, acyloxy, acylamino, silyloxy, amino, nitro, sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, and -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>;

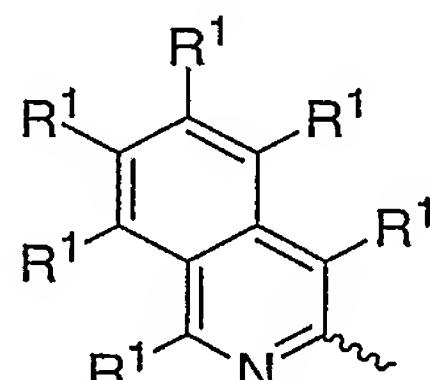
$R_{80}$  represents independently for each occurrence carboxaldehyde, carboxylate, carboxamido, alkoxycarbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid, (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor; and

d is an integer in the range 0 to 12 inclusive.

15 53. The compound of claim 49, wherein said compound is complexed with a radionuclide.

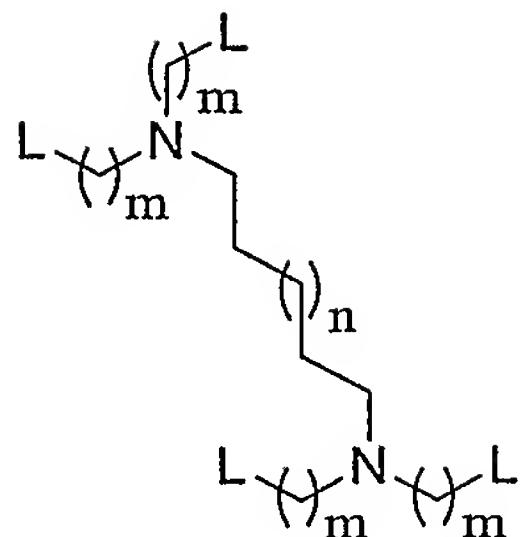
16 54. The compound of claim 49, wherein said compound is complexed with a radionuclide,

17 wherein said radionuclide is technetium or rhenium.



18 55. The compound of claim 49, wherein L is  ; R<sup>1</sup> is hydrogen; and Z is alkyl.

19 56. A compound represented by F:



1

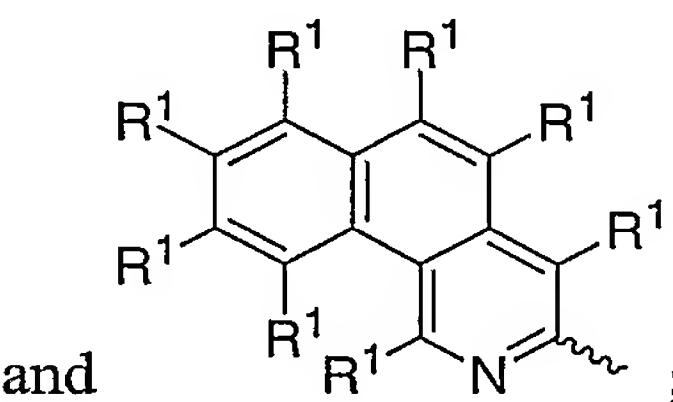
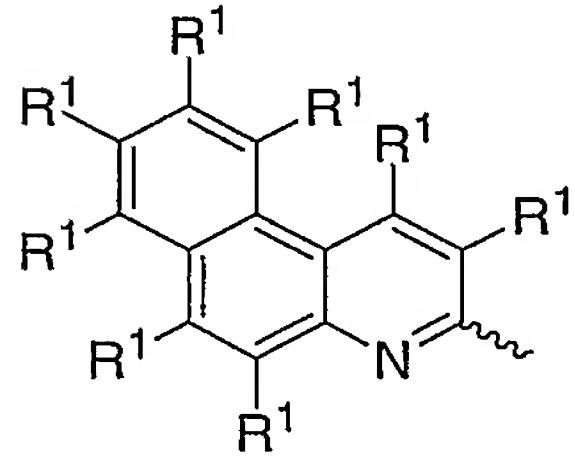
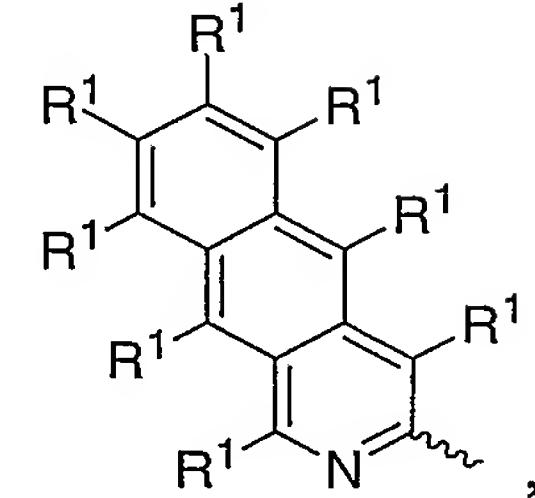
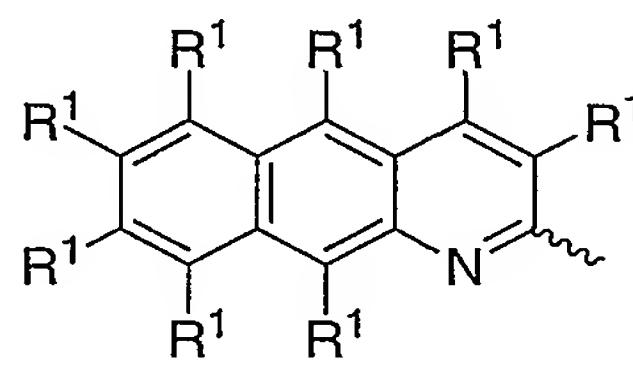
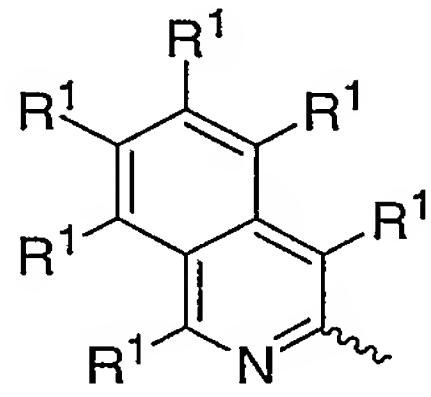
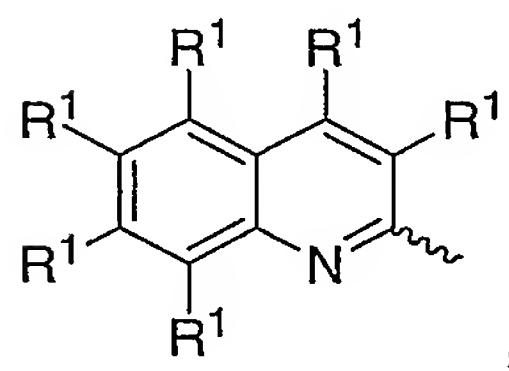
2

3 wherein

4 m is independently for each occurrence an integer in the range 0 to 6 inclusive;

5 n is an integer in the range 0 to 6 inclusive;

6 L is independently for each occurrence selected from the group consisting of



7

8

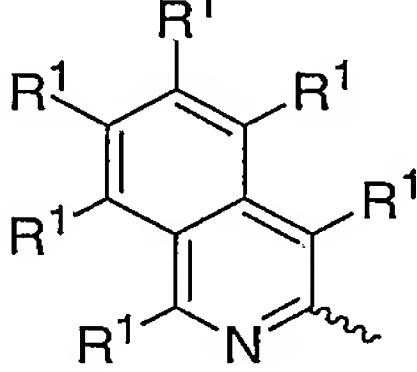
each instance of R<sup>1</sup> is selected independently from the group consisting of halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro, sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, and -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>;

$R_{80}$  is independently for each occurrence carboxaldehyde, carboxylate, carboxamido, alkoxycarbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl, heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid, (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor; and  $d$  is an integer in the range 0 to 12 inclusive.

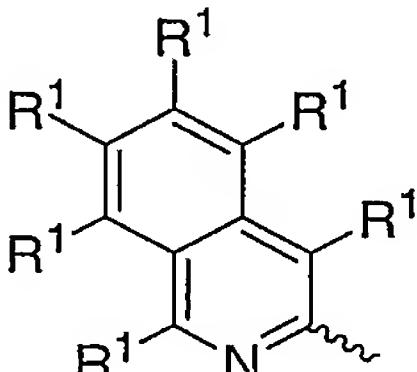
The compound of claim 56, wherein  $m$  is 1

the compound of claim 50, wherein III is I.

The compound of claim 56, wherein n is 1.



The compound of claim 56, wherein L is  ; and R<sup>1</sup> is hydrogen.

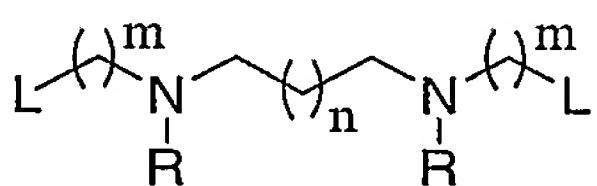


The compound of claim 56, wherein L is ; R<sup>1</sup> is hydrogen, m is 1; and n is 1.

The compound of claim 56, wherein said compound is complexed with a radionuclide.

The compound of claim 56, wherein said compound is complexed with a radionuclide, wherein said radionuclide is technetium or rhenium.

A compound represented by **G**:



G

wherein

R is H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl,  $-\text{CO}_2\text{H}$ ,  $-\text{(CH}_2\text{)}_d\text{R}_{80}$ , or an amino acid radical;

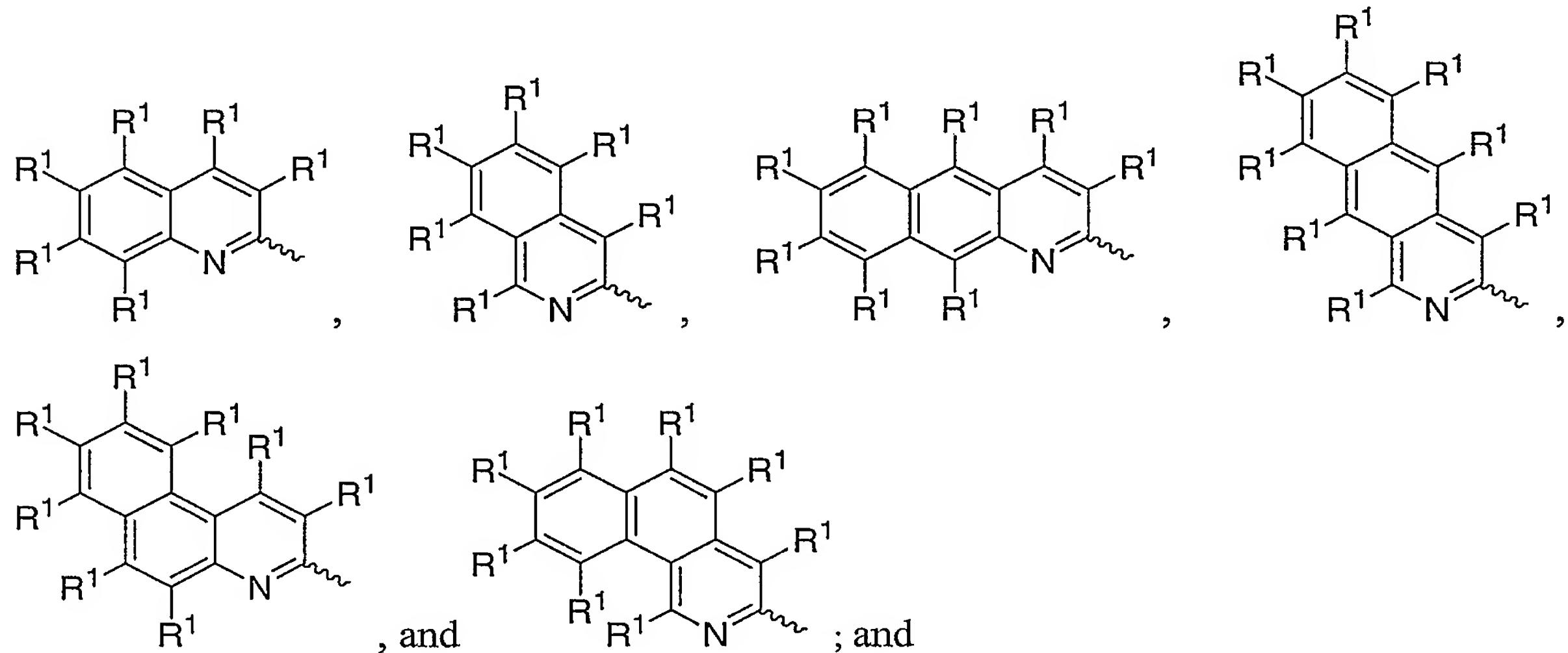
1       $R_{80}$  is independently for each occurrence carboxaldehyde, carboxylate, carboxamido,  
 2      alkoxy carbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl,  
 3      heterocyclyl, polycyclyl, amino acid, peptide, saccharide, ribonucleic acid,  
 4      (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor;

5       $d$  is an integer in the range 0 to 12 inclusive;

6       $m$  is independently for each occurrence an integer in the range 0 to 6 inclusive;

7       $n$  is an integer in the range 0 to 6 inclusive;

8       $L$  is independently for each occurrence selected from the group consisting of

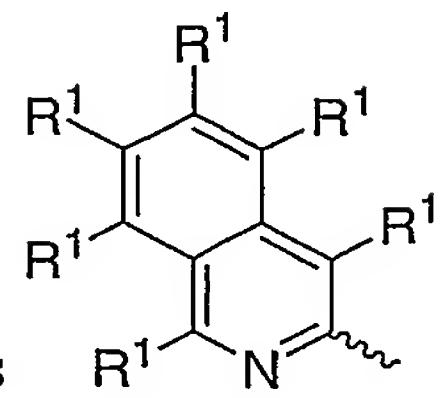


9      each instance of  $R^1$  is selected independently from the group consisting of halogen, alkyl,  
 10     alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro,  
 11     sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl,  
 12     carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl,  
 13     selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal,  
 14     amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide,  
 15     hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea,  
 16     and  $-(CH_2)_d-R_{80}$ .

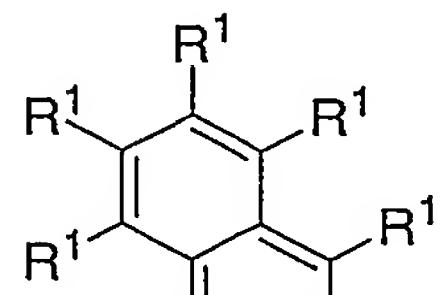
17     64. The compound of claim 63, wherein  $m$  is 1.

18     65. The compound of claim 63, wherein  $n$  is 1.

1 66. The compound of claim 63, wherein R is hydrogen.



2 67. The compound of claim 63, wherein L is ; and R<sup>1</sup> is hydrogen.

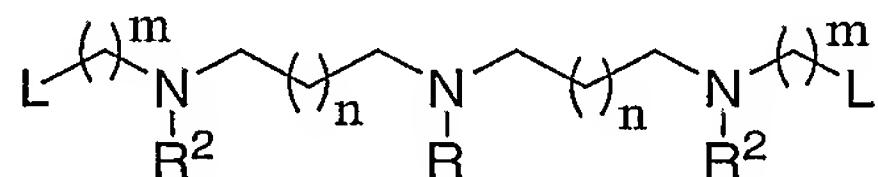


3 68. The compound of claim 63, wherein L is ; R<sup>1</sup> is hydrogen; m is 1; n is 1; and R is hydrogen.

5 69. The compound of claim 63, wherein said compound is complexed with a radionuclide.

6 70. The compound of claim 63, wherein said compound is complexed with a radionuclide, wherein said radionuclide is technetium or rhenium.

8 71. A compound represented by **H**:



11 wherein

12 R is hydrogen, halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro, sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, or -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>;

19 R<sup>2</sup> represents a moiety comprising a neutral or anionic Lewis base, H, alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, thioalkyl, alkenyl, alkynyl, aryl, heteroaryl, aralkyl, heteroaralkyl, acyl, aminoacyl, hydroxyacyl, thioacyl, (amino)alkoxycarbonyl,

1 (hydroxy)alkoxycarbonyl, (amino)alkylaminocarbonyl, (hydroxy)alkylaminocarbonyl,  
 2 -CO<sub>2</sub>H, -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>, or an amino acid radical;

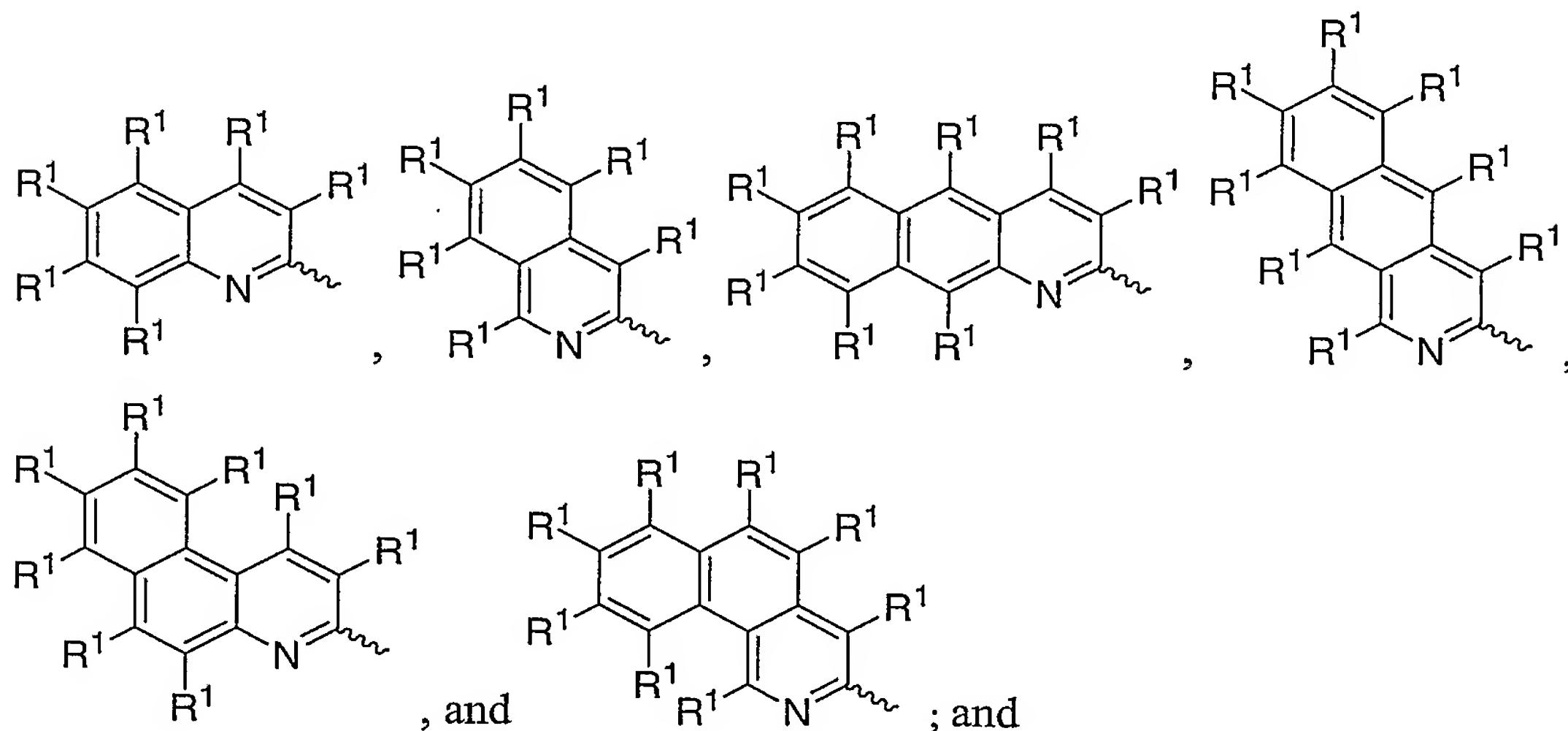
3 R<sub>80</sub> is independently for each occurrence carboxaldehyde, carboxylate, carboxamido,  
 4 alkoxy carbonyl, aryloxycarbonyl, ammonium, aryl, heteroaryl, cycloalkyl, cycloalkenyl,  
 5 heterocycl, polycycl, amino acid, peptide, saccharide, ribonucleic acid,  
 6 (deoxy)ribonucleic acid, or a ligand for a G-protein-coupled receptor;

7 d is an integer in the range 0 to 12 inclusive;

8 m is an integer in the range 0 to 6 inclusive;

9 n is an integer in the range 0 to 6 inclusive;

10 L is independently for each occurrence selected from the group consisting of



13 each instance of R<sup>1</sup> is selected independently from the group consisting of halogen, alkyl,  
 14 alkenyl, alkynyl, hydroxyl, alkoxy, acyl, acyloxy, acylamino, silyloxy, amino, nitro,  
 15 sulfhydryl, alkylthio, imino, amido, phosphoryl, phosphonate, phosphine, carbonyl,  
 16 carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl,  
 17 selenoalkyl, ketone, aldehyde, ester, heteroalkyl, cyano, guanidine, amidine, acetal, ketal,  
 18 amine oxide, aryl, heteroaryl, aralkyl, heteroaralkyl, azido, aziridine, carbamoyl, epoxide,  
 19 hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea,  
 20 and -(CH<sub>2</sub>)<sub>d</sub>-R<sub>80</sub>.

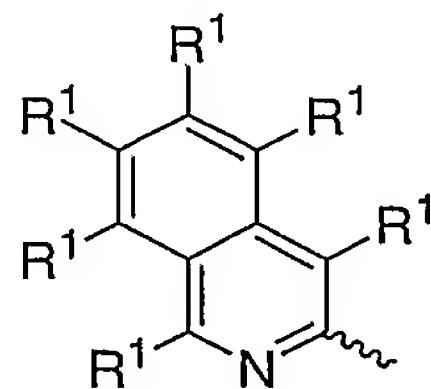
1 72. The compound of claim 71, wherein m is 1.

2 73. The compound of claim 71, wherein n is 1.

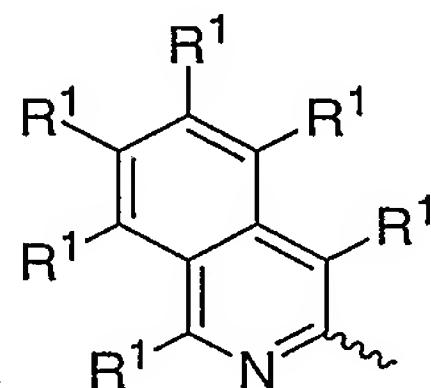
3 74. The compound of claim 71, wherein R is hydrogen or  $-(CH_2)_d-R_{80}$ .

4 75. The compound of claim 71, wherein  $R^2$  is a moiety comprising an anionic Lewis base

5 76. The compound of claim 71, wherein  $R^2$  is a carboxylate, thiolate, or phenolate



6 77. The compound of claim 71, wherein L is ; and  $R^1$  is hydrogen.



7 78. The compound of claim 71, wherein L is ;  $R^1$  is hydrogen; m is 1; n is 1; R is hydrogen or  $-(CH_2)_d-R_{80}$ ; and  $R^2$  is a carboxylate, thiolate, or phenolate.

9 79. The compound of claim 71, wherein said compound is complexed with a radionuclide.

10 80. The compound of claim 71, wherein said compound is complexed with a radionuclide, wherein said radionuclide is technetium or rhenium.

12 81. A formulation, comprising a compound according to any of claims 1-80; and a pharmaceutically acceptable excipient.

14 82. A method of imaging a region in a patient, comprising the steps of: administering to a patient a diagnostically effective amount of a compound of claim 2, 3, 5, 6, 27, 28, 30, 31, 53, 54, 61, 62, 69, 70, 79 or 80; and obtaining an image of said region of said patient.

17 83. The method of claim 82, wherein said region of said patient is the head or thorax.

18 84. A method of preparing a peptide conjugate incorporating a compound of claim 16, 25, 43 or 52, wherein the peptide conjugate is prepared using solid phase synthetic techniques.